

Chapter 4 Quiz 1 Study Guide

Lessons 4-1 through 4-4

Lesson 4-1- Divisibility and Mental Math- Circle all numbers that each given number is **divisible** by. Use divisibility rules.

Number	Divisible by....
4,590 18	2 3 5 6 9 10
896 23	2 3 5 6 9 10
945 18	2 3 5 6 9 10

Lesson 4-2- Exponents

Simplify each expression. Show your work step by step.

3) $2^4 + 5^2 + 106$
 $\underline{16} + 5^2 + 106$
 $16 + \underline{25} + 106$
 $\underline{41} + 106$
 $\underline{147}$

4) $(4^2 - 4) \times 10$
 $(16 - 4) \times 10$
 12×10
 120

5) $4 + 7 \times 2^3$

$4 + 7 \times 8$

$4 + 56$

60

Lesson 4-3- Prime Numbers and Prime Factorization- Find the **Prime Factorization** of each number using a factor tree or a birthday cake. Write your final answer using exponents if possible.

7)

58

2

29

29

2

58

2×29

8) 72

$2 \mid 72$

$2 \mid 36$

$2 \mid 18$

$2 \mid 9$

$3 \mid 9$

$3 \mid 3$

$2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$

$2^3 \cdot 3^2$

9)

40

2 20

2 10

2 5

5 5

2 10

2 20

2 40

2.2.2.5

OR

$2^3 \cdot 5$

Lesson 4-4 Greatest Common Factor- Use a **division ladder** or **factor trees** to find the GCF of each set of numbers.

<p>10) 32, 24 and 40</p> <p>Factor trees: $32 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$ $24 = 2 \cdot 2 \cdot 2 \cdot 3$ $40 = 2 \cdot 2 \cdot 2 \cdot 5$</p> <p>Common factors: $2 \cdot 2 \cdot 2 = 8$ GCF = 8</p> <p>Division ladder: $\begin{array}{r} 4 \ 3 \ 5 \\ 4 \ 16 \ 12 \ 20 \\ 2 \ 8 \ 6 \ 10 \\ 1 \ 4 \ 3 \ 5 \end{array}$ $4 \times 2 = 8$ GCF = 8</p>	<p>11) 56 and 35</p> <p>Factor trees: $56 = 2 \cdot 2 \cdot 2 \cdot 7$ $35 = 5 \cdot 7$</p> <p>Common factor: 7 GCF = 7</p> <p>Division ladder: $\begin{array}{r} 8 \ 5 \\ 7 \ 56 \ 35 \\ 1 \ 7 \ 5 \end{array}$ GCF = 7</p>	<p>12) 27 and 36</p> <p>Factor trees: $27 = 3 \cdot 3 \cdot 3$ $36 = 2 \cdot 2 \cdot 3 \cdot 3$</p> <p>Common factors: $3 \times 3 = 9$ GCF = 9</p> <p>Division ladder: $\begin{array}{r} 3 \ 4 \\ 9 \ 27 \ 36 \\ 1 \ 3 \ 4 \end{array}$ GCF = 9</p>
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Squares and Square Roots- Try to complete the following to the best of your ability **without** looking at your flash cards. If you really want to test yourself- time yourself to try to get it all done in **2 minutes**.

2^2	4	$\sqrt{196}$	14
4^2	16	$\sqrt{225}$	15
6^2	36	$\sqrt{16}$	4
7^2	49	$\sqrt{4}$	2
3^2	9	$\sqrt{9}$	3
12^2	144	$\sqrt{121}$	11
11^2	121	$\sqrt{144}$	12
5^2	25	$\sqrt{25}$	5
8^2	64	$\sqrt{81}$	9
9^2	81	$\sqrt{64}$	8
13^2	169	$\sqrt{100}$	10
10^2	100	$\sqrt{49}$	7
15^2	225	$\sqrt{36}$	6
14^2	196	$\sqrt{169}$	13